



# M100 / M100T Weather Resistant Compact Loudspeaker System



## KEY FEATURES

- ★ Compact Size
- ★ Versatile Mounting Provisions
- ★ Low-Flux-Leakage Magnet Design
- ★ Extended Bass Response
- ★ 70 / 100 Volt Transformer

Version Available

## PRIMARY SPECIFICATIONS

<b>Frequency Response:</b>	85-20,000 Hz, $\pm 3$ dB, 1 Meter on Axis, Swept 1/3-Octave, Anechoic Environment.
<b>Usable Low-Frequency Limit:</b>	65 Hz, (10-dB-down point)
<b>Long-Term Average Power Handling:</b>	Capacity per EIA Standard RS-426A <b>M100:</b> 160 watts. <b>M100T:</b> 1 to 30 watts in 3 dB steps.
<b>Sound Pressure Level:</b>	85 dB at 1 Meter, 1 Watt Input, Anechoic Environ- ment, Band-Limited Pink Noise Signal, 300 to 2,000 Hz.
<b>Dispersion Angle:</b>	100° $\pm$ 25° Horiz. and Vert., 1,500-10,000 Hz. Included by 6-dB-Down Points on Polar Responses, Indicated One-Third-Octave Bands of Pink Noise.
<b>Directivity Factor: R<sub>0</sub> (Q)</b>	Median: 9.5 (+13.4,-5.4), 1,500-20,000 Hz
<b>Directivity Index: Di:</b>	Median: 9.8 dB (+3.8 dB, -3.6 dB), 2,000-20,000 Hz

## DESCRIPTION

The Altec Lansing M100 and M100T are extremely compact high-performance monitor loudspeaker systems. They are ideally suited for indoor or outdoor applications requiring high-quality sound reproduction. As a near-field monitor in control rooms or broadcast studios, or as a foreground or background loudspeaker in restaurants and clubs, they are the choice of professional users. The M100 has a 4 ohm impedance and the M100T includes an internal 70.7 / 100 volt transformer for use in distributed loudspeaker systems. Their high power handling also makes them suitable for nearfield monitoring in live performance situations. Threaded inserts in the cabinet in combination with the optional mounting hardware provide a flexible mounting system for virtually any application. The low-frequency section is a 5 1/4" direct radiating woofer with a polypropylene cone installed in an optimally vented high-impact polystyrene enclosure. This combination produces extended bass response with relatively high efficiency

for a small enclosure. The use of plastic materials for the enclosure and cone allow the loudspeaker system to be used in high-humidity environments. The high-frequency section is a 1" direct-radiating soft dome tweeter. The tweeter is ferro-fluid cooled and uses flexible tinsel lead wires to prevent thermal or mechanical failure. These features in addition to the large magnetic system make this the most rugged tweeter ever used in a system this size. To prevent loudspeaker failure from being accidentally over-driven, independent woofer and tweeter protection circuits have been incorporated. These circuits will automatically reduce the power being delivered to the drivers if their threshold is exceeded, greatly reducing the possibility of driver failure. Both drivers feature low-flux-leakage designs enabling the speaker to be used in close proximity to video monitors. For very critical video monitoring applications, a minimum distance of four inches from the edge of the loudspeaker to the edge of the CRT is recommended.

## M100 / M100T Specifications (continued)

### Transducer Complement,

**High-Frequency:** 2.5cm (1 inch) Tweeter  
**Low-Frequency:** 13cm (5¼ inch) Woofer  
**Box Tuning Frequency:** 75 Hz  
**Crossover Frequency:** 3,500 Hz

### M100 Impedance,

**Nominal:** 4 ohms  
**Minimum:** 3.7 ohms at 270 Hz  
**Enclosure Materials:** High impact polystyrene structural foam.

### Dimensions,

**Height:** 24.9 cm (9.8 in.)  
**Width:** 17.8 cm (7.0 in.)  
**Depth:** 15.0 cm (5.9 in.)

**Net Weight:** 2.6 kg (5.7 lb) each  
**Shipping Weight:** 5.7 kg (12.7 lb) per pair.

### Replacement Parts

#### M100/M100T,

**Woofer:** M100-RLF  
**Tweeter:** M100-RHF  
**Grille:** M100-RG  
**M100,**  
**Network:** M100-RNW  
**M100T,**  
**Network:** M100T-RNW  
**Transformer:** M100T-RXFMR

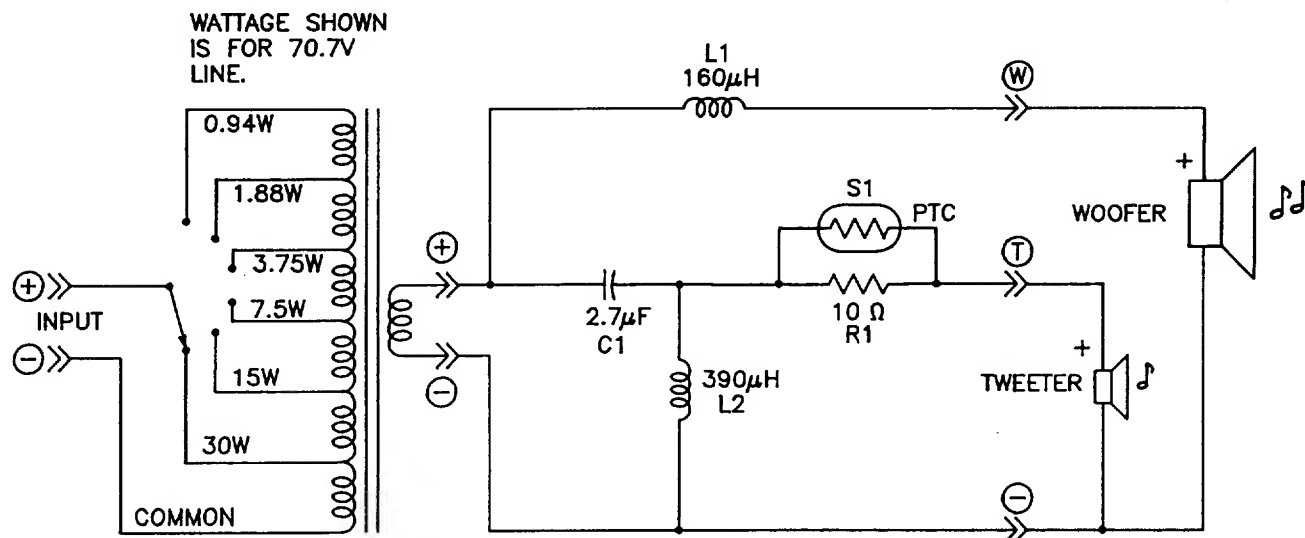
**Color:** Black.

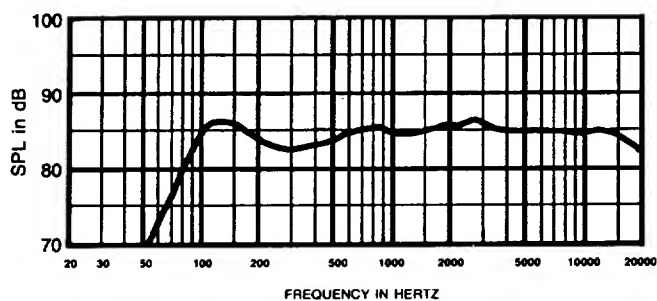
**Optional Accessories:** M-100MB mounting bracket.  
 (Order separately)

## M100T Transformer Impedances

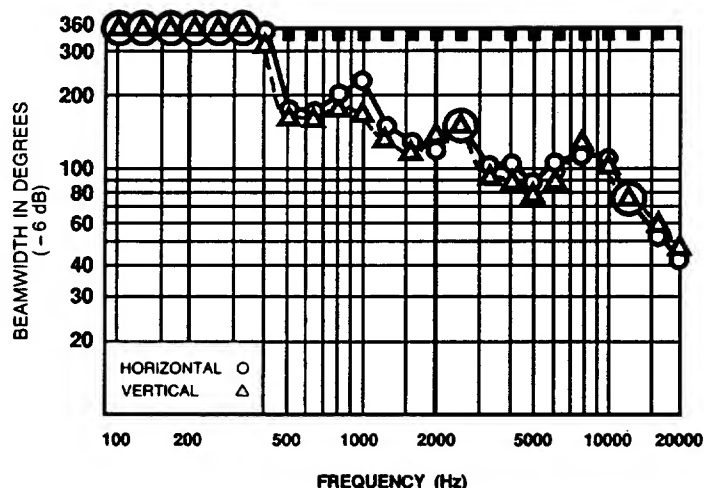
Power Tap	Impedance	
	100-Volt	70-Volt
30W	335Ω	167Ω
15W	670Ω	335Ω
7.5W	1360Ω	670Ω
3.7W	2700Ω	1360Ω
1.9W	5400Ω	2700Ω
0.94W	N/A	5400Ω

## M100T / M100 Schematic

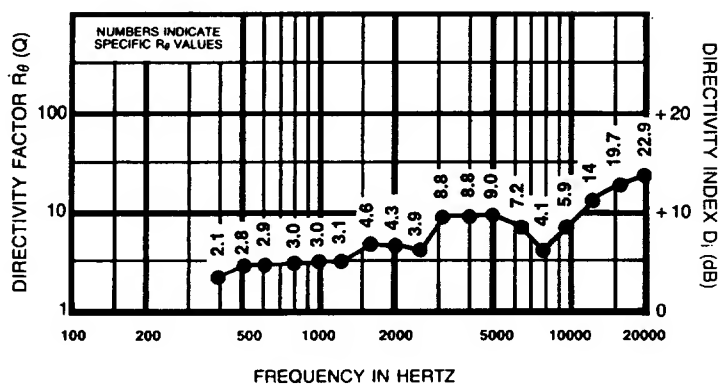




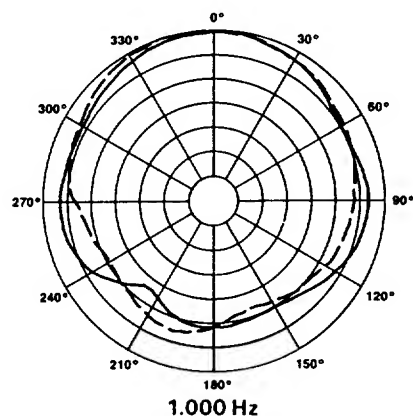
**FIGURE — 1**  
**Axial Frequency Response**



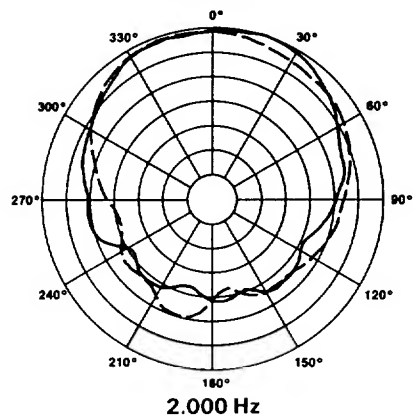
**FIGURE — 2**  
**Beamwidth vs. Frequency**



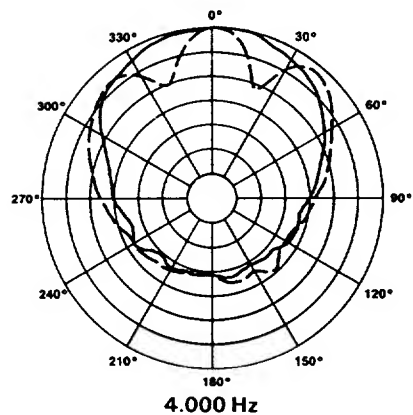
**FIGURE — 3**  
**Directivity vs. Frequency**  
**Whole Space (anechoic)**



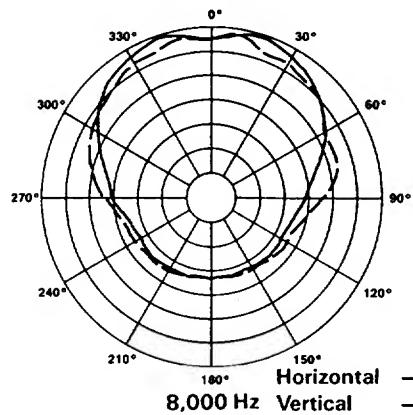
1.000 Hz



2.000 Hz



4.000 Hz



8.000 Hz

**FIGURE — 4**  
**Polar Response**

## INSTALLATION NOTES

On the back of the M100 are two 1/4-20" threaded inserts. These are intended to be used with mounting systems which have 2-3/8" mounting centers, such as the Omnimount Systems Series 25. A U-type bracket, the M100MB is also available. This will allow the M100 to be mounted on walls or ceilings. A microphone stand adaptor is also included. Complete mounting instructions are included with the M100MB. Care should be taken to ensure that the chosen fixing point is strong enough to support the M100. Care should also be taken to ensure that the M100 is not exposed to direct precipitation. If the speaker system is not used with one

of the mounting brackets, such as on a bookshelf, then the rubber feet that are included with the M100 should be attached to the speaker. If the speaker is placed on the bottom side, then a rubber foot should be attached to each of the two rear corners only. This will compensate for the 3° draft that is molded into the cabinet, and allows the baffle to sit perpendicular to the surface that the speaker is placed on. If the speaker is to be placed on its side, then a rubber foot should be attached to each of the four corners. The nameplate that is attached to the grille may be rotated depending on which mounting orientation is used.

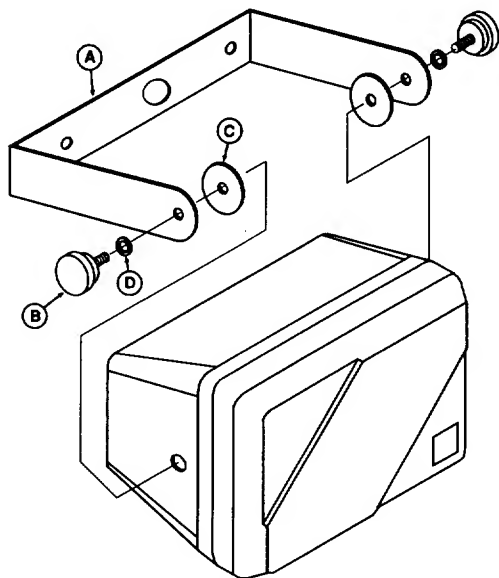


FIGURE 1  
Wall Mounting

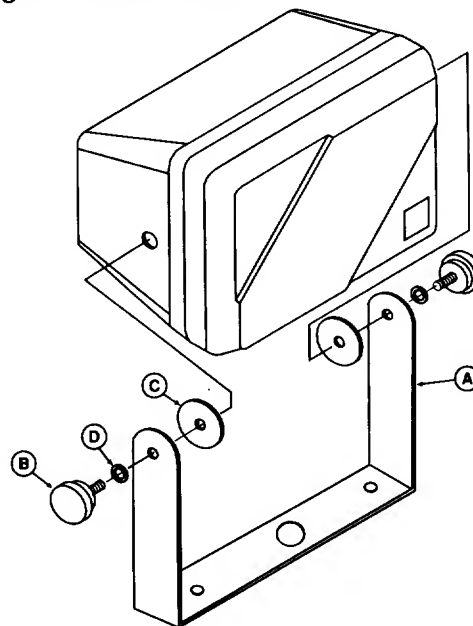


FIGURE 2  
Stand Mounting

## ARCHITECT'S and ENGINEER'S SPECIFICATION

The loudspeaker shall be a two-way system consisting of a 13 cm (5 1/4 inch) low-frequency loudspeaker, 2.5 cm (1 inch) high-frequency loudspeaker, [M100T only: 30-watt line transformer,] and frequency dividing network installed in a vented enclosure. [M100T only: The line transformer shall have power taps for 30 watts, 15 watts, 7.5 watts, 3.7 watts, 1.9 watts, and 0.94 watts. The power taps shall be switch selectable.] The dividing network crossover frequency shall be 3,500 Hz. The dividing network shall include a protection circuit for the high-frequency loudspeaker.

The loudspeaker system shall meet the following performance criteria: Power handling, [M100 only: 160 watts,] [M100T only: 30 watts,] Frequency response,  $\pm 3$  dB from 85 Hz to 20 kHz. Pressure sensitivity, 84 dB SPL at one watt, 100 Hz to 10 kHz measured at a distance of one meter on axis. The enclosure shall be molded of high impact polystyrene structural foam. The unit shall be 24.9 cm (9.8 inch) high, 17.8 cm (7.0 inch) wide, 16.8 cm (6.6 inch) deep. The loudspeaker shall be the Altec Lansing Maestro series M100 [100T].



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